

CLAIMS

1. A slowly digestible starch product, characterized in that the starch product has a swellable network, the linking points of which are formed by crystallites, and that the starch product has an initial hydrolysis rate (H_0) < 300%/h.
2. The starch product according to claim 1, characterized in that the starch product has a constant or nearly constant hydrolysis rate (H_c) for at least 0.25 h, in particular < 300%/h.
3. The starch product according to at least one of the preceding claims, characterized in that a portion of the starch product measuring > 20% is hydrolyzed at a constant or nearly constant hydrolysis rate (H_c).
4. The starch product according to at least one of the preceding claims, characterized in that the starch product has a swelling level (Q) ranging from 1.1-4 after swelled in water at room temperature.
5. The starch product according to at least one of the preceding claims, characterized in that the DSC melting point (T_p) of the crystallites measures > 70°C.
6. The starch product according to at least one of the preceding claims, characterized in that the starch product has a percentage of resistant starch ranging from 0-50%.
7. The starch product according to at least one of the preceding claims, characterized in that the starch product has 1-95% short-chain amylose, and in particular that the starch product has network-linking mixed crystallites consisting of this amylose and the basic starch.
8. A method for manufacturing a slowly digestible starch product, characterized in that the starch is at least partially gelatinized or at least partially plasticized, and, if necessary, a mixture of the at least

partially gelatinized or at least partially plasticized starch with a short-chain amylose is obtained, and the starch or starch mixture prepared in this way is conditioned, during which a starch network is set, and the resultant starch product has an initial hydrolysis rate (H_0) < 300%/h.

9. The starch product according to at least one of the preceding claims, characterized in that the starch product has at least one additive, in particular a percentage of soluble fibers.
10. The starch product according to at least one of the preceding claims, characterized in that the starch product is added to a food as an ingredient, in particular to a bar and the like, and/or is present as a tablet and/or food per se, in particular as a cereal or snack.

No	Starch	SCA	Wo	Cond.	d [mm]	Q [%/h]	Ho [%/h]	HC [h]	tc [%]	SD [%]	Tp [°C]	RS [%]
WS 46-1	Corn	0	30	None	0.5	>10	1000	1000	0.08	0	*	1
WS 47-1	Corn	10	30	None	0.5	2.6	90	90	0.6	97	98	3
WS 48-1	Corn	20	30	None	0.5	2.2	55	55	0.7	94	105	6
WS 49-1	Corn	30	30	None	0.5	1.9	43	43	0.7	93	114	7
WS 46-2	Corn	0	30	1 h at 50°C	0.5	2.6	125	125	0.5	96	77	4
WS 47-2	Corn	10	30	1 h at 50°C	0.5	1.9	47	47	0.9	95	103	5
WS 48-2	Corn	20	30	1 h at 50°C	0.5	1.4	28	28	1.7	93	111	7
WS 49-2	Corn	30	30	1 h at 50°C	0.5	1.3	22	22	2.5	92	117	8
WS 40-1	Potato	0	30	None	0.5	>10	1000	1000	0.08	0	*	1
WS 41-1	Potato	10	30	None	0.5	2.5	58	58	0.6	96	94	4
WS 42-1	Potato	20	30	None	0.5	1.7	33	33	1.7	95	104	5
WS 43-1	Potato	30	30	None	0.5	1.4	25	25	2.2	93	116	7
WS 40-2	Potato	0	30	1 h at 50°C	0.5	1.8	48	48	0.8	96	75	4
WS 41-2	Potato	10	30	1 h at 50°C	0.5	1.7	30	30	1.4	95	101	5
WS 42-2	Potato	20	30	1 h at 50°C	0.5	1.4	23	23	2	93	110	7
WS 43-2	Potato	30	30	1 h at 50°C	0.5	1.3	15	15	3.5	92	116	8
WS 55-1	Potato	20	36	1 h at 50°C	0.5	1.3	16	14	3.5	91	109	9
WS 55-2	Potato	20	36	1 h at 50°C	0.35	1.7	36	15	3	91	109	9
WS 55-3	Potato	20	36	1 h at 50°C	0.2	1.9	54	16	3	93	109	7
WS 55-1	HA pea	20	25	1 h at 50°C	0.5	1.2	14	12	4	83	114	17
WS 55-2	HA pea	20	25	1 h at 50°C	0.35	1.3	26	13	2.5	84	114	16
WS 55-3	HA pea	20	25	1 h at 50°C	0.2	1.5	38	14	3	86	114	14

WS 69-1	HA pea	0	29	None	0.3	6	600	600	0.08	10	72	9
WS 69-2	HA pea	0	29	1 d at 25°C	0.3	3.1	200	200	0.3	89	77	11
WS 69-3	HA pea	0	29	1 h at 70°C	0.3	5	360	360	0.2	30	85	12
WS 69-4	HA pea	0	29	1 h at 90°C	0.3	4.5	330	330	0.2	35	105	12
WS 72-1	HA pea	5	29	None	0.3	2.9	200	12	2	90	98	10
WS 72-2	HA pea	5	29	1 d at 25°C	0.3	2.3	90	20	2.5	89	100	11
WS 72-3	HA pea	5	29	1 h at 70°C	0.3	2.2	80	20	2.5	89	104	11
WS 72-4	HA pea	5	29	1 h at 90°C	0.3	2	70	22	2.5	89	111	11
WS 95-1	HA corn	0	24	None	0.15	1.8	200			89	110	11
WS 95-2	HA corn	0	24	1 h at 70°C	0.15	1.5	70			87	118	13
WS 97-1	HA corn	10	35	None	0.15	1.5	68			86	118	14
WS 97-2	HA corn	10	35	1 h at 50°C	0.15	1.4	46			85	121	15
WS 98-1	HA corn	0	37	None	0.15	1.5	70			84	115	16
WS 98-2	HA corn	0	37	1 h at 40°C	0.15	1.3	32			82	118	18
Native cornstarch						64	64	0.6	97	72	3	
Amylase-treated cornstarch						200	200	0.25	85	92	11	
Novelose 330						270	270	5	20	131	52	
White baguette						1000			0	*	1	
Whole grain bread						530			10	*	9	
Rye whole meal bread						220			75	*	17	

HA pea	High-amyllose content pea	Ho	Initial hydrolysis rate
HA corn	starch	Hc	Constant hydrolysis rate
SCA	High-amyllose content	Tc	Constant hydrolysis time
Wo	cornstarch	SD	Slowly digestible starch
Cond.	Short chain amylose, DP – 24	Tp	DSC melting point
d	Water content during cond./before drying	RS	Percentage of resistant starch/fiber
Q	Conditioning	*	No crystallites
	Particle size		
	Swelling level		

Table 1